

PONOMAREV, V., inzh.

How to assure the smooth running of farm flour mills using grind-  
stones. Muk.-elev. prom. 25 no.8:26-29 Ag '59.

(MIRA 13:1)

(Flour mills)

POINOMAREV, V., inzh.; TERESHCHENKO, A., inzh.

Producing high-grade flour at rural mills. Muk.-elev.prom. 25  
no.12:25-26 D '59. (MIRA 13:4)  
(Flour mills)

KLIMOV, S., inzh.; PONOMAREV, V., inzh.

Make better use of grain-cleaning machinery and grain dryers. Mak .-  
elev. prom. 26 no.9:25-26 S '60. (MIRA 13:9)

1. Tekhnicheskoye upravleniye Ministerstva khleboproduktov RSFSR.  
(Grain-- Cleaning) (Grain-- Drying)

PONOMAREV, Vladimir Aleksandrovich; CHELYSHEV, Arkadiy Mikhaylovich;  
VOLKOV, P.N., red.; SAVEL'YEVA, Z.A., tekhn. red.

[Safety measures in grain-receiving enterprises] Tekhnika bez-  
opasnosti na khlebopriemnykh predpriyatiyakh. Moskva, Zagot-  
izdat, 1962. 134 p. (MIRA 15:11)  
(Grain handling—Safety measures)

PYSHKIN, Viktor Petrovich, inzh.; KARABANOV, Sergey Aleksandrovich,  
inzh.; PONOMAREV, Vladimir Aleksandrovich, inzh.; FROLOV,  
K.P., inzh., red.; VOLKOV, P.N., red.; SAVEL'YEVA, Z.A.,  
tekhn. red.

[Manual for the mechanic of a grain receiving station]  
Spravochnik mekhanika khlebopriemnogo punkta. Pod red. K.P.  
Frolova. Moskva, Zagotizdat, 1963. 243 p. (MIRA 16:9)  
(Grain handling machinery)

PONOMAREV, V., inzh.

Cleaning and processing grain at rural flour mills. Muk.-slav.  
prom. 29 no.4:25-27 Ap '63. (MIRA 16:7)

(Flour mills)

KEDER-STEPANOVA, I.A.; PONOMAREV, V.A.

Reaction of neurons of the respiratory center region to the stimulation of the medial zone of the medulla oblongata. Biofizika 10 no.2:324-333 '65. (MIRA 18:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

L 29107-66- ENT(d) IJP(c)

ACC NR: AP6019391

SOURCE CODE: UR/0042/65/020/006/0081/0086

AUTHOR: Dobrovolskaya, N. M.; Ponomarev, V. A.

ORG: none

TITLE: Pair of counter-operators

SOURCE: Uspekhi matematicheskikh nauk, v. 20, no. 6, 1965, 81-86

TOPIC TAGS: linear operator, mathematics

ABSTRACT: The article solves the following problem posed by I. M. Gel'fand: Let there be two finite-dimensional spaces P and R of arbitrary dimensions and two linear operators A and B, with operator A mapping space P into R and operator B mapping R into P. What is the canonical form of such a pair of counter-operators and what are the necessary and sufficient conditions for the equivalence of two pairs of such operators?

It is shown that any pair of counter-operators can be expressed as the direct sum of jointly nilpotent and jointly regular operators. The authors then find separately the canonical form for a pair of jointly nilpotent operators and a pair of jointly regular operators. It is shown that for the equivalence of two pairs of counter-operators it is necessary and sufficient that the nilpotent and invertible parts of both pairs of operators be equivalent.

The authors thank I. M. Gel'fand for advice. Orig. art. has: 5 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 01Apr65

Card 1/1 CC

MIKHAYEV, O.Y.; PONOMAREV, V.A.; POSPELOV, V.V.

Computing and multiplying unit of an electronic control system.  
Sovetskoye Radio 1964. (MIRA 17:10)

KUZNETSOV, V.S.; PONOMAREV, V.A.; KUZ'MIN, V.V., inzh., retsenzent;  
BERKOVICH, D.M., kand. tekhn. nauk, red.

[System of multipurpose attachments with interchangeable  
parts used in the machinery industry] Sistema universal'no-  
sbornykh prispособlenii v mashinostroenii. Moskva, Mashino-  
stroenie, 1964. 269 p. (MIRA 17:12)

PNOMAREV, V.A.

Automatic machine design asymptotically optimal in a stationary casual medium. Biofizika 9 no. 1:104-110 '64. (MIRA 17:71)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

*Ponomarev, V.A.*

PETROV, A.D.; BATUYEV, M.I.; PONOMAREV, V.A.; SNEGOVA, A.D.; MATVEYEVA, A.D.;  
SOKOLOV, B.A.

Chlorination and bromination of phenyltrichlorosilane and the  
Raman spectra of halide substituted phenyltrichlorosilanes.  
Zhur. ob. khim. 27 no.8:2057-2061 Aug '57. (MLRA 10:9)

1. Institut organicheskoy khimii Akademii nauk SSSR.  
(Silane)

PONOMAREV, Viktor Aleksandrovich; PASTERNAK, Nina Aleksandrovna; YERENBURG,  
Yelizar Yefimovich; CHERBYSKIY, Ye.A., retsenzent; SILATOV, A.F.,  
red.; UVAROVA, A.F., tekhn. red.

[Increasing labor productivity in casting sections] Povyshenie  
produktivnosti truda v liteinykh tsekhakh. Moskva, Gos.  
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 249 p.  
(Iron founding) (MIRA 11:9)

*PONOMAREV, V.A.*

MUSIN, A.Ch.; BAKAYEV, M.T.; PONOMAREV, V.A.

Investigating physical and mechanical properties of rocks in  
Dzhezkazgan ore deposits. Trudy Inst. gor. dela AN Kazakh. SSR  
2:137-157 '57. (MIRA 10:12)  
(Dzhezkazgan--Ore deposits) (Rocks--Testing)

PONOMAREV, V.A., inzh.; OLESOV, A.M., inzh.; BABINCHUK, V.M., inzh.

RK-60 trench cutting machine. Trakt.i sel'khozmas. 31 no.9:  
28-29 S '61. (MIRA 14:10)

(Excavating machinery)

KUZNETSOV, V.S.; PONOMAREV, V.A.; MOISEYEV, M.P., inzh., retsenzent;  
KASPEROVICH, N.S., inzh., red.; UVAROVA, A.F., tekhn. red.

[Multipurpose attachments with interchangeable parts and in the  
machinery industry; album of drawings] Universal'no-sbornye pri-  
sposobleniia v mashinostroenii; al'bom chertezhei. 2. izd.,  
ispr. i perer. Moskva, Mashgiz, 1962. 228 p. (MIRA 15:9)  
(Machine tools--Attachments)

TERENT'YEV, Vasiliy Stepanovich; TSALYUK, Matus Borisovich;  
BENYAKOVSKIY, M.A., retsenzent; PONOMAREV, V.A., red.;  
FARSHAYT, Ye.D., red.; SKOROBOGACHEVA, A.P., red. izd-  
va; TURKINA, Ye.D., tekhn. red.

[Thin sheet finishing mills] Ad"iustazh tonkolistovykh  
stanov; otdelochnye mashiny. Sverdlovsk, Gos. nauchno-  
tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1961. 344 p. (MIRA 15:2)  
(Rolling mills--Equipment and supplies)

PONOMAREV, V. A., jt. au.

Kuznetsov, V. S., Universal-assembly parts in machine-building; album of blue prints.  
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952. 211 p. (53-36768)

TJ1185.K85

POHOMAREV, V.A., inzhener.

Standardised assemblies of attachments and universal devices  
in experimental and small-scale production. [Isd] ICHITOMASH  
24:355-371 '51. (MIRA 8:2)  
(Machine tools--Accessories and attachments)

PONOMAREV, V. A.

"Shipbuilding and Naval Architecture," Naval Fleet, Military Naval Publishers, 1942.

14

CA

Coagulation of strongly turbid river waters. A. A. Kot.  
V. A. Ponomarev, V. P. Ugol'nikov. *Elek. Stantsii* 20,  
No. 11, 51-53 (1949).—Clogging of cationite filters through  
scale consisting mainly of natrolite,  $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 3\text{SiO}_2 \cdot$   
 $2\text{H}_2\text{O}$ , is prevented by coagulation of suspended matter  
with  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  or  $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$ . With 200 mg/l.

of the former, water with originally 380-700 mg/l. dry  
residue, pH 7.4-8.0, became completely transparent, with  
 $\text{SiO}_2$  falling from 39 to 4.0-8.5, oxidability from 85 to  
25-30 mg/l. Adequate results are also obtained with  
70-200 mg/l.  $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$ , at pH 6-7. N. Thon

MUSIN, A.Ch.; PONOMAREV, V.A.

Results of using microseismographic apparatus for studying  
the strength of rooting in working steep ore seams of  
Dzhezkazgan ore deposits. Vest.AN Kazakh.SSR 12 no.3:62-70  
Mr '56. (MIRA 9:7)

1. Predstavlena deystvitel'num chlenom AN KazSSR A.S. Popovym.  
(Dzhezkazgan--Mine timbering)

BROVKO, Aleksey Petrovich; VORONTSOV, V.G., retsenzent; YEDOVIN  
V.Ye., retsenzent; ZAKHAROV, A.P., retsenzen; KROPACHEV,  
V.P., retsenzent; PASTUKHOV, N.V., retsenzent;  
PEREGUDOV, V.V., retsenzent; POKONCHIKOV, V.A., retsenzent;  
RUDEV, A.M., retsenzent; KHROFUNSKIY, Ye.A., retsenzent;  
SMIRNOV, A.A., inzh., retsenzent

[Contact networks in strip mines] Kontaktnaya set' na  
kar'erakh. Moskva, Nedra, 1964. 207 p. (MIRA 18:2)

1. Inzhenerno-tekhnicheskiye rabotniki Korkinskogo trestu  
ugol'nykh predpriyatiy (for all except Brovko).

PONOMAREV, A. D.

Cand. Tech. Sci.

Dissertation: "Influence of the base metal (steel) on the physicomachanical properties of electrolytic chromium." 19 Oct 49

Red Banner Order Of Lenin Military Air Engineering Academy imeni

Professor N. Ye Zhukovskiy

SO Vecheryaya Moskva  
Sum 71

**Volumetric determination of mercuric chloride by means of lead sulphide.** N. A. TANANAY and V. D. FOMOSHEV (*J. Appl. Chem. Russ.*, 1935, 8, 1076-1078); 35 ml. of approx. 0.1N-HgCl<sub>2</sub> are boiled during 15 min. with 25 ml. of an aq. suspension of freshly prep. PbS; the solution is filtered, the filtrate + washings are boiled, and titrated with 0.1N-Na<sub>2</sub>CO<sub>3</sub> (phenolphthalein); the HgCl<sub>2</sub> content is calc. according to the reaction HgCl<sub>2</sub> + PbS → HgS + PbCl<sub>2</sub>. The mean error is -0.4%. R. T.

1ST AND 2ND ORDERS		PROCESS AND PROPERTIES INDEX	
<p>Investigation of conditions for optimum extraction of alumina from clays of the Gumeshev and the Ivanov deposits. A. A. Veselovskii and V. D. Ponomarev. <i>Trudy Ural. Ind. Inst.</i> 1938, No. 6, 21-42; <i>Khem. Referat. Zhur.</i> 1, No. 11-12, 107-8 (1938).—The possibility of obtaining <math>Al_2(SO_4)_3</math> from the clays was investigated.</p> <p>The clays were heated for 1-3 hrs. at 600-800°, and then boiled with a calcul. amt. of <math>H_2SO_4</math>, according to the content of clay substance. The detn. was made by the Hoff and Steinbrecher method, which gave excessive values. Corrected results were obtained from lab. boiling. The clays were heated at 700° for 2-3 hrs. A temp. increase increased the Al and the Fe yields. Optimum length of boiling was 5-6 hrs. A titrimetric detn. of the acidity of the lixiviums gave lowered results, especially with lixiviums which were yellowish in color. An empirical correction must be made for the detn. of the true free acid. In order to prevent a hydrolytic splitting of <math>Al_2(SO_4)_3</math>, the lixiviums of the black and of the white boiling processes must be weakly acidic. This was obtained by an addn. of 80-82% of the calcul. amt. of acid for the Gumeshev clay, and of 93-94% for the Ivanov clay, in the process of black boiling, and by the addn. of a freshly pptd. <math>Al_2O_3</math> hydrate in the process of white boiling. The Gumeshev clays did not produce a product whose Fe content agreed with the prescribed standard, and therefore they can be used to better advantage for the production of coagulant instead of <math>Al_2(SO_4)_3</math>.</p> <p style="text-align: right;">W. R. Henn</p>			
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION		1ST AND 2ND ORDERS	

PONOMAREV, V. D.

"Rapid Analysis of Martens Slag," A.P. Dubinskiy, L.S. Zaikin, and V.D. Ponomarev, Zavod. Lab., 7, pp 93-94, 1938.

Five-tenths g. of slag is dissolved in 20 ml. of  $\text{HNO}_3$ -HCl-HF mixt., the soln. is boiled for 30 min. with 20 ml. of  $\text{HClO}_4$ , and  $\text{Cr}^{\text{VI}}$  titrated in the cooled dild. soln. Mn is detd. in the titrated soln. by known methods.  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ , CaO, MgO,  $\text{P}_2\text{O}_5$  and Fe are detd. in a second portion of slag by the ordinary methods.

B.C.F.A.

18

Decreasing the amount of nitric acid used in the Kirov-grad tower system. G. D. Paatchevskii, V. D. Ponomarev, and E. I. Savinkova. *J. Chem. Ind. (U. S. S. R.)* 19, 20-5 (1939). H. M. Leicester

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX																									
<p>CA</p> <p>Amalgam method for analyzing mercuric chloride. V. D. Ponomarev and D. S. Kholodov. <i>Zavodskaya Lab.</i> 8, 672 (1940). Dissolve the <math>HgCl_2</math> in 25 ml. concd. <math>H_2SO_4</math> and one l. water, dil. to make the acidity 0.1 N, shake an aliquot portion with 3% Zn amalgam in a closed test tube until the Hg is reduced (test with <math>H_2S</math>), and titrate the Cl in a 25-ml. portion with 0.1 N <math>AgNO_3</math> by the Volhard method. The results are accurate. B. Z. K.</p>																									
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>BC</i></p>										<p><i>A-1</i></p>									
<p><b>Properties of liquid amalgams. V. D. POZD- MAREV and S. M. GUBELBANK (J. Gen. Chem. Russ., 1939, 9, 1365—1368).—The cations of weakly dis- sociated salts, such as HgCl<sub>2</sub>, or of sparingly sol. salts, such as HgCl, PbSO<sub>4</sub>, AgCl, Ag<sub>2</sub>S, etc., are readily replaced by Zn when the acid suspension or solution is shaken with Zn-Hg. R. T.</b></p>																			
<p><i>Lab. of Analytical Chem., Sverdlovsk State U. im. A.M. Gor'kiy</i></p>																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST AND 2ND ORDERS</p>										<p>3RD AND 4TH ORDERS</p>									
<p>1ST AND 2ND ORDERS</p>										<p>3RD AND 4TH ORDERS</p>									

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										ANALYTICAL INDEX																									
<p>CA</p> <p>Volumetric determination of iodide ion in mercury compounds. V. D. Ponomarev. <i>Zashchita Lab.</i> 9, 299-301 (1940).—Shake the sample of <math>HgI_2</math> about 20 ml. 2 N <math>H_2SO_4</math> and Zn amalgam in a separatory funnel for about 1 min. Remove the amalgam and transfer the soln. to a flask and det. the <math>I_2</math> by the Volhard method, or iodometrically if Cl ion is also present. B. Z. Karnich</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

PRECIPITATION AND PROPERTIES INDEX	
CA	7
<p><b>Reaction for ammonium ions.</b> V. D. Ponomarev. <i>Zashchita Lab. 9, No. 1, 100(1940).</i>—By reaction with <math>\text{HCHO}</math>, <math>\text{NH}_4^+</math> ion produces <math>\text{H}^+</math> ion, which can be detected by decolorization of phenolphthalein. Add to 1-2 ml. of sample several drops of 1% phenolphthalein soln. and caustic alk. soln. to a distinct red color. If colored hydroxides are produced, filter, carefully neutralize the red filtrate with <math>\text{HCl}</math> to a pink color, then add, drop by drop, a weakly alk. <math>\text{HCHO}</math> soln. If <math>\text{NH}_4^+</math> ion is present the soln. becomes colorless. The analysis requires 5 min. and the sensitivity of the reaction is <math>10^{-4}</math> g. of <math>\text{NH}_4^+</math> in 1 ml. of the <math>\text{NH}_4^+</math> salt soln. and <math>10^{-4}</math> g. in 1 ml. in the presence of other ions.</p> <p style="text-align: right;">W. R. Heun</p>	
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>RECORD SYMBOL</p>	<p>RECORD NO. ONLY</p>
<p>RECORD NO. ONLY</p>	<p>RECORD NO. ONLY</p>

1ST AND 2ND CDD (S)		3RD AND 4TH CDD (S)	
PROCESSING AND PROPERTY INDEX			
<p>Use of liquid amalgams in chemical analysis. V. D. Ponomarev. <i>J. Gen. Chem. (U.S.S.R.)</i> 11, 1937-10 (1941); cf. <i>C.A.</i> 39, 1114. It is shown that liquid amalgams, like the Hg cathode, are suitable for analytical work involving reduction and pptn. of metals of the Sn and Cu groups. O. M. Kozlovskii</p>			
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>1ST AND 2ND CDD (S)</p>		<p>3RD AND 4TH CDD (S)</p>	

1ST AND 2ND CODES		PROCESSING AND PROPERTY INDEX		3RD AND 4TH CODES	
C A		Application of liquid amalgams in analytic and inorganic chemistry. V. D. Ponomarev. <i>J. Applied Chem.</i> (U. S. S. R.) 17, 151-5(1944)(English summary).—The applicability of liquid amalgams to the detn. of As, is shown. The liquid amalgam of Zn in HCl affords a convenient method for reducing As compounds to AsH <sub>3</sub> with detection by HgCl <sub>2</sub> paper. A two-cell electrolytic bath, with a common liquid Zn amalgam bottom layer, can be used to prep. Zn free of As by electrolysis of Zn sulfate with an amalgamated Zn electrode; pure Zn is deposited upon an Al electrode. Zn(OAc) <sub>2</sub> can be prepd. by electrolysis, with ZnCl <sub>2</sub> in the anolyte with a Zn anode, and with AcOH as catholyte and a Ag cathode. Zn(OH) <sub>2</sub> can be obtained similarly with water as catholyte; the formation of metallic Zn is avoided by stirring and heating the catholyte. ZnCO <sub>3</sub> can be readily obtained by satn. of the catholyte with CO <sub>2</sub> .		7	
<div style="display: flex; justify-content: space-between;"> <span>ASB, SLA METALLURGICAL LITERATURE CLASSIFICATION</span> <span>8-17-12, 12-17</span> </div>					

COMMON ELEMENTS										PROCESSING AND PROPERTIES INDEX										COMMON VARIABLE NOT									
1ST AND 2ND ORDER										3RD AND 4TH ORDER										5TH AND 6TH ORDER									
<p>Effect of Mn on the current efficiency in the electrolytic recovery of Zn. V. Yu. Zaklet, V. I. Ponomarev, and V. V. Stender. <i>J. Applied Chem. (U.S.S.R.)</i> 17, 2823 (1944).—Potentials of platinized Pt electrodes were detd. in Zn-H<sub>2</sub>SO<sub>4</sub> in the presence of varying amts. of Mn at 20-60°. The results are shown graphically. As Mn concn. increases, the cathode potential becomes more pos. this is apparently due to depolarization of H film. The color of the soln. indicates the formation of MnO<sub>2</sub> at the anode, which is reduced stepwise eventually to MnSO<sub>4</sub>. Thus the loss in current efficiency in Zn electrolysis in presence of Mn is readily explainable. G. M. K.</p>																													
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													

11

\*On the Determination of Cobalt by the Mercury Thiocyanate Method. V.D. Ponomarev (Zhur. Obshch. Khim., 1945, 18, (3), 151-153).—[In Russian.] A method for the determination of 0.001-1.5% of Co in the presence of larger quantities of Fe or Ni is described. This is based on the formation of complex  $\text{CoHg}(\text{SCN})_4$  crystals from neutral or slightly acid solutions. If any Fe is present in the solution, its precipitation is prevented by the addition of citric acid. The blue precipitate containing Co starts to form in 5-10 min. after the addition of  $[\text{Hg}(\text{SCN})_4]^{2-}$ , and after 1-1½ hr. the solution is filtered and the precipitate redissolved in a solution of acetone and potassium or ammonium thiocyanate. Co is then determined colorimetrically. In the event of Ni being present, the solution should also contain a suspension of  $\text{ZnHg}(\text{SCN})_4$ , which forms crystals, together with  $\text{CoHg}(\text{SCN})_4$ , before any precipitation of Ni takes place.—V. K.

AS-51A METALLURGICAL LITERATURE CLASSIFICATION

PONOMAREV, V.D.; SALTOVSKAYA, L.A.; STENDER, V.V.

Utilisation of converter gas in copper hydrometallurgy. Izv. AN  
Kazakh SSR Ser.khim. no.1:63-73 '46. (MLRA 9:8)  
(Copper--Metallurgy) (Sulfuric acid industry)

PONOMAREV, V. D. Dr. Tech. Sci.

Dissertation: "Sodium Sulfate in Alumina Production." Moscow Inst. of Nonferrous Metals and Gold, imeni M. I. Kalinin, 30 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

PODOMAREV, V.D.

Sulfur dioxide concentration: a) Sulfur dioxide concentration  
techniques. Izv. AN Kazakh SSR Ser. khim. no.1:30-36 '47. (MLRA 9:8)  
(Sulfur dioxide)

PNOMAREV, V.D.; BELIKOV, A.I.

Sulfur dioxide concentration: b) Comparative rate of desorption  
of sulfuric anhydride from various absorbents. Izv.AN Kazakh.  
SSR Ser.khim. no.1:36-38 '47. (MLRA 9:8)  
(Sulfur trioxide) (Desorption)

YEREMENKO, M.F.; PONOMAREV, V.D.; STENDLER, V.V.

Catalytic oxidation of sulfuric anhydride by manganese salt  
solutions: a) Adsorption and oxidation of sulfur dioxide by  
manganese compounds. Izv. AN Kazakh. SSR. Ser. khim. no. 1:38-46  
'47. (MLRA 9:8)

(Sulfur dioxide) (Manganese)

PONOMAREV, V.D.; YEREMENKO, M.F.; STENDER, V.V.

Catalytic oxidation of sulfuric anhydride by manganese salt  
solutions: b) Pilot-plant experiments in catalytic preparation of  
sulfuric acid. Izv.AN Kazakh.SSR Ser.khim. no.1:46-59 '47.

(MIRA 9:8)

(Sulfuric acid industry)

PECHERSKAYA, A.G.; PONOMAREV, V.D.

Catalytic oxidation of sulfuric anhydride by magnesium salt  
solutions: c) Effect of copper ions on the catalytic oxidation  
of sulfur dioxide by manganese ions. Izv.AN Kazakh.SSR Ser.khim.  
no.1:60-61 '47. (MLRA 9:8)  
(Oxidation) (Sulfur dioxide) (Copper)

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>M</i> <span style="float: right;"><i>11</i></span></p> <p><b>Cobalt Analysis: Magn Determination in the Presence of Iron or Nickel.</b>  V. D. Ponomarev (<i>Metal Ind.</i>, 1947, 76, (22), 40N). Translated and abridged  from <i>ZAVUZ</i> <i>Chim. A. Khim.</i>, 1945, 16, (3), 151-155; <i>Mel. Abs.</i>, 1946, 18, 57.  ---J. L. T.</p>																			
<p>ASD-51-A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1000-110-001-11</p>										<p>1000-110-001-11</p>									
<p>1000-110-001-11</p>										<p>1000-110-001-11</p>									

PONOMAREV, V.D.

Equation for the dissolute peptization. Izv. AN Kazakh. SSR. Ser. khim.  
no. 2:43-52 '48. (Colloids) (MIRA 9:7)

PONOMAREV, V.D.

Equilibriums in the system:  $\text{Fe}_2\text{O}_3$  -  $\text{Na}_2\text{S}$  -  $\text{H}_2\text{O}$ . Izv. AN Kazakh. SSR  
Ser. khim. no. 2: 53-63 '48. (MIRA 9:7)  
(Iron oxides) (Sodium sulfides)

PONOMAREV, V.D.; NI, L.F.

Theory of filtration. J.appl. Chem. USSR '52, 25, 730-739. (MLRA 5:8)  
(BA-AI Jo '53:511)

PONOMAREV, V. D.: BERGER, G. S.

Surface Chemistry

Effect of phase boundary curvature on the surface energy of solutions. Zhur. fiz. khim. 26.  
No. 3. 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952~~1953~~, Uncl.

PONOMAREV, V.D.

SALIN, A.A.; PONOMAREV, V.D.

Simultaneous cathodic deposition of ions of bivalent lead and  
zinc during electrolysis of sulfuric acid solutions. TSvet. met.  
26 no.2:49-54 Mr-Ap '53. (MLRA 10:9)  
(Electrolysis)

SOV/124-57-3-3287

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 94 (USSR)

AUTHORS: Ponomarev, V. D., Ni, L. P.

TITLE: The Specific Resistance During Seepage as a Function of the Particle Diameter and Porosity (Zavisimost' udel'nogo soprotivleniya pri fil'tratsii ot diametra chastits i poristosti)

PERIODICAL: Izv. AN KazSSR, 1953, Nr 118, pp 3-10

ABSTRACT: The authors investigated the equation for the specific resistance of a fictitious soil (consisting of spherical particles)  $r=k(1-\epsilon)^2/d^2 \epsilon^3$ , where  $k$  is an experimental coefficient,  $\epsilon$  the porosity of the soil, and  $d$  the diameter of the particles. The applicability of this equation to sediments composed of nondeformable particles of arbitrary shape was verified. The experiments were conducted under vacuum on a filter with a diaphragm made of porous glass (the filtering area amounting to 10.7 cm<sup>2</sup>). The values of  $r$  were computed on the basis of the time required for the filtration of a definite volume of liquid through a sediment layer of constant depth under conditions of constant pressure. It was established that the dependence of  $r$  on  $d$  and  $\epsilon$  in the case of quartz and galenite sediments is represented with

Card 1/2

SOV/124-57-3-3287

The Specific Resistance During Seepage as a Function of the Particle (cont.)

sufficient accuracy by the equation given above. It was established that an analogous relationship in the case of alumina and ferric-oxide sediments is expressed by the empirical equation  $r = k'(1 - \epsilon)^{4.5/d} \epsilon^3$ . It is shown that the lower rate of increase of  $r$  observed as the values of  $d$  and  $\epsilon$  of alumina and ferric-oxide sediments are reduced (as compared with the same values for quartz and galenite sediments) is attributable to the greater structural porosity of the former.

V. A. Zhuzhikov

Card 2/2

PONOMAREV, V.D.; NI, L.P.

Effect of viscosity of electrolyte solutions on specific resistance during  
filtration. Izv.AN Kazakh.SSR no.118:11-15 '53. (MIRA 6:10)  
(Filters and filtration) (Electrolytes)

PONOMAREV, V.D.

Chemical Abst.

Vol. 48 No. 6

Mar. 25, 1954

General and Physical Chemistry

Solubility of aluminum hydroxide in solutions of sodium hydroxide and sulfide. V. D. Ponomarev and N. N. Ruban. *Izvest. Akad. Nauk Kazkh. S.S.R. No. 118, Ser. Khim., No. 6, 10-24 (1953).*—The amt. of  $Al_2O_3$  dissolved from the solid by aq. NaOH or  $Na_2S$  solns. depends on the surface of the solid phase. The soly. obeys colloidal laws. The concn. of satd. soln. in the proximity of the solid is not const. and varies with temp. and concn. of the electrolyte. In  $Na_2S$  solns. apparently  $AlO_4^+$  acts as a peptizing agent. The pos. charge of the micelle is detd. by increase of concn. of  $Al_2O_3$  in the cathode vol. In NaOH solns. increase of  $Al_2O_3$  concn. was observed in the anode vol., indicating peptization by  $AlO_4^-$ .  $Na_2S$  solns. are not less effective solvents for  $Al_2O_3$  than are NaOH solns. of similar concn. of  $Na_2O$ . Results are given graphically and tabularly.  
G. M. Kosolapoff

MF  
11-5-54

PONOMAREV, V.D.

Chemical Abst.

Vol. 48 No. 6

Mar. 25; 1954

General and Physical Chemistry

Solution peptization and surface energy on boundary liquid-solid. V. D. Ponomarev and N. N. Ruban. *Izv. Akad. Nauk Kazakh. S.S.R.* No. 118, Ser. Khim. No. 6, 25-31 (1953).—Math. theoretical. The coagulation const. is a function of max. soly., of the mass of the gel, and of sp. surfaces of the gel and of the micelles. The exptl. data on coagulation in  $Al_2O_3$  systems with aq. NaOH and aq.  $Na_2S$  agree with the theoretical predictions. The coagulation const. in NaOH solns. does not appreciably depend on concn. of the soln.; the same applies to  $Na_2S$ . In the latter, the hydrosulfide ion apparently aids micelle formation and results in large surface areas of the solid phase. Equation  $K = (2\pi\gamma M^2/3RT)$  applies to the systems studied; in this,  $\Delta\gamma$  is the difference in surface between micelle and gel,  $v$  is the vol. of the system,  $\gamma$  is the surface energy, and  $K$  is the coagulation const. G. M. Kosolapoff.

MF  
11-574

PONOMAREV, V.D.

PONOMAREV, V. D.

Chemical Abstracts  
Vol. 48 No. 5  
Mar. 10, 1954  
Apparatus, Plant Equipment, and Unit  
Operations

Apparatus for recrystallization of sodium sulfide. V. D.  
Ponomarev and R. M. Korostyshevskaya. *Izvest. Akad.  
Nauk Kazakh. S.S.R. No. 118, Ser. Khim., No. 6, 78-81*  
(1953).—A continuous-flow system of several vessels,  
equipped for crystn., liquid and solid transfer in inert atm.  
(H<sub>2</sub>) is shown. This is suitable for purification of Na<sub>2</sub>S or  
other substances. G. M. Kosolapoff

POKONAREV, V. D.

Chemical Abstracts  
May 25, 1954  
General and Physical  
Chemistry

②  
Reaction of aluminum hydroxide and silica with solutions of sodium sulfide at high temperature. V. D. Pokonarev and M. I. Erdenbaeva. *Izvest. Akad. Nauk Kazakh. S.S.R.* No. 123, Ser. Khim. No. 7, 79-85 (1953).—Reaction of  $\text{Al}(\text{OH})_3$  with  $\text{Na}_2\text{S}$  soln. at 15 atm. at about  $200^\circ$  and a similar reaction of  $\text{SiO}_2$  were studied. The process of soln. of  $\text{Al}(\text{OH})_3$  in  $\text{Na}_2\text{S}$  solns. is not affected by the presence of considerable amts. of S. The change of compn. of  $\text{Na}_2\text{S}$  soln. during the soln. is slight and consists of oxidation of the SH ion. The change of compn. of the  $\text{Na}_2\text{S}$  soln. in the presence of  $\text{SiO}_2$  is negligible. The amt. of  $\text{SiO}_2$  in the  $\text{Na}_2\text{S}$  soln. is 0.45 to 0.5 times that in  $\text{NaOH}$  of the same concn. The presence of  $\text{S}^{--}$  and  $\text{SH}^-$  ions reduces the transition of  $\text{SiO}_2$  into soln. and reduces the stability of silicic acid sol.  
G. M. Kosolapoff

PONOMAREV, V. D.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Metallurgy and Metallography

*(2) Part*  
Filtration of zinc plant pulp. V. D. Ponomarev and D. E. Chasov. *Izvest. akad. Nauk Kazakh. S.S.R.* No. 123, Ser. Khim. No. 7, 86-95 (1953).—Viscosity and d. of acid and neutral pulps after Zn roasting differ from each other significantly, although the content of free  $H_2SO_4$  reaches but 6 g./l. Apparently neutralization destroys the colloidal system of the acid soln.; this gives low viscosity in neutralized system. The pptn. of  $SiO_2$  from acid soln. supports this idea. The filter cake is an inhomogeneous ppt. whose filtration rate can be expressed by  $(V/F)^m = KP^n t$ , where  $V$  is the vol. of filtrate per time  $t$ ,  $F$  is the filtering surface area,  $P$  is applied pressure, and  $K$ ,  $M$ ,  $n$  are empirical consts.;  $n = 0.9$ ,  $m = 1.37-3.0$ , while  $K$  varies widely with thickness of the cake, and is lowest for pressure filtration. The filtration rate rises from 25° to 60°, but further rise in temp. has little effect. Acid pulp filters less rapidly than neutral material. G. M. Kosolapoff

PONOMAREV, V. D.

Chemical Abst.

Vol. 48 No. 9

May 10, 1954

Apparatus, Plant Equipment,  
and Unit Operations

③  
Apparatus for determination of electroconductivity and viscosity of solutions. V. D. Ponomarev and G. M. Korostyshevskaya. *Izvest. Akad. Nauk Kazakh. S.S.R.* No. 123, Ser. Khim. No. 7, 125-6(1953).—For detn. of cond. and viscosity of solns. of NaSH and Na<sub>2</sub>S without contact with air an enclosed app. was constructed (diagram shown). The cond. portion is conventional while the viscosity detn. is made on the same sample in the same app. by provision of a capillary connection between the cond. app. and a storage reservoir of the soln. (Usanovich, et al., C.A. 34, 3186).  
G. M. Kosolapoff

8-31-54  
gjp

PNOMAREV, V.D.; KOROSTYSHEVSKAYA, R.M.

Survey of methods used for analysing sodium sulfide and sodium hydrosulfide. Trudy Akad. Nauk Kazakh SSR 1:87-106 '54.

(MIRA 10:1)

(Sodium sulfide) (Sodium dithionite) (Chemistry, Analytical)

PONOMAREV, V.D., doktor tekhnicheskikh nauk.

Energy of attachment of a mineral particle to an air bubble.  
Vest. AN Kazakh. SER 11 no.9:61-66 S '54. (MIRA 8:2)  
(Flotation)

ONOMAREV, V.D.

GETSKIN, L.S.; ONOMAREV, V.D.

Behaviour of arsenic during the oxidation of iron by atmospheric  
oxygen in the hydrometallurgy of zinc. Izvet. met. 27 no.1:42-49  
Ja-F '54. (MIRA 10:9)

(Arsenic) (Iron) (Oxidation)

PONOMAREV, V.D.  
BAYKONUROV, O.A.; BELYAYEV, A.I.; BOGOMOLOV, V.I.; VANYUKOV, V.A.; GAZARYAN, L.M.;  
GLEK, T.P.; GORYAYEV, M.I.; KACHEVSKIY, V.A.; KLUSHIN, D.N.; KUNAYEV,  
D.A.; LEHEDEV, B.N.; LISOVSKIY, D.I.; LOSKUTOV, F.M.; MITROPANOV, S.I.;  
MOLCHANOV, A.A.; MOSKVITIN, I.N.; OL'KHOV, N.P.; OSIPOVA, T.B.;  
PLAKSIN, I.N.; PONOMAREV, V.D.; RUMYANTSEV, M.V.; SOKOL'SKIY, D.V.;  
SOKOLOV, M.A.; SPASSKIY, A.G.; STRIGIN, I.A.; SUSHKOV, K.V.;  
SHAKHNAZAROV, A.K.; YASYUKOVICH, S.M.

Khosrov Kurginovich Avetisian, obituary. TSvet.met.27 no.3:66-68  
My-Je '54. (MIRA 10:10)

(Avetisian, Khosrov Kurginovich, 1900-1954)

SOV/137-57-6-9808

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 71 (USSR)

AUTHORS: Kabanova, L.M., Ponomarev, V.D.

TITLE: The Precipitation of Arsenic From Zinc and Cadmium Sulfate Solutions (Ob osazhdenii mysh'yaka iz sul'fatnykh tsinkovykh i kadmiyevykh rastvorov)

PERIODICAL: Tr. Altaysk. gorno-metallurg. n.-i. in-ta, 1956, Vol 3, pp 136-156

ABSTRACT: An investigation is made of processes of As deposition from arsenate solutions of the following composition:  $H_3AsO_4$  (I) -  $ZnSO_4$  (II),  $I-CdSO_4$  (II),  $I-CuSO_4$  (IV),  $I-Fe_2(SO_4)_3$  (V), I-II-V, I-III-V, I-IV-V, I-II-III-V, I-II-III-IV-V, I-II-III, I-II-III-IV. Precipitation was by additions of  $NH_4OH$  with continuous monitoring of the pH of the solution and of the composition of the solution and the bottom phase. It is shown that precipitation of As from neutralized solutions II, III, IV, and V results due to formation of arsenates (A), the composition of the latter being dependent upon the acidity of the solution. At one and the same As concentration in the

Card 1/2

SOV/137-57-6-9808

The Precipitation of Arsenic From Zinc and Cadmium Sulfate Solutions

starting solution (3 g/liter), As precipitates as an A of Fe, Cu, Zn, and Cd in the following pH intervals: 1.1-3.0; 1.85-5.6; 1.6-6.0, and 1.8-7.2, respectively. In alkaline media, the dissolution of all the A, ending in the 9-10 pH interval, is observed. The precipitation of A starts at lower pH values than that of the hydroxides; this indicates to an arsenate order of reaction < than the hydroxide order of reaction and consequently to the possibility of precipitating As by hydroxides. A vary in solubility at various pH values, and this may be employed to separate As and Fe from Cu, Zn, and Cd.

A.Ye.

Card 2/2

Ponomarev, V.D.

137-58-5-9319

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 75 (USSR)

AUTHORS: Ponomarev, V.D., Stolyarova, Ye.I., Koz'min, Yu.A.,  
Favorskaya, L.V., Shalavina, Ye.L.

TITLE: A Leaching Treatment of Dust From Furnaces of Lead Plants  
(Shchelochnoy sposob pererabotki pyley svintsovykh zavodov)

PERIODICAL: Izv. AN KazSSR. Ser. gorn. dela, metallurgii, str-va i  
stroymaterialov, 1956, Nr 4 (15), pp 3-17

ABSTRACT: The authors present a technology of a dust-processing system intended to increase the extraction of Cd, Tl, and In from roasted dusts issuing from smelting furnaces in lead plants. The system possesses the following advantages: 1) the Tl is extracted in the early stage of dust processing, namely, during aqueous leaching; the extraction of metallic Tl constitutes 52-57%; the electrolytic Tl, obtained by means of a two-stage electrolysis process, is 99.998% pure; 2) large amounts of Pb, Zn, and As are extracted into solution in the process of alkaline leaching. Cd and In remain in the residue. Owing to the considerable reduction in the weight of the leaching residue (down to 1/6-1/11), the amount of Cd and In contained in it is 6-11 times greater than it was in the original dust.

Card 1/1

G.S.

1. Lead ores--Processing 2. Metals--Separation 3. Electrolysis  
--Applications

PONOMAREV, V.D.

B-8

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium.  
Physicochemical analysis. Phase transitions

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11159

Author : Ponomarev V.D., Isakova R.A.

Inst : Academy of Sciences Kazakh SSR

Title : Vapor Pressure of Antimony Trisulfide over  $Sb_2S_3$  -PbS Melt

Orig Pub : Izv. AN Kazakh SSR, ser. gorn. dela, stroymaterialov i metallurgii,  
1956, No 6, 48-52 (Kazakh summary)

Abstract : By the "jet" method determination was made of vapor pressure (P) of  $Sb_2S_3$  fused with PbS in the temperature interval 750-925°, with a  $Sb_2S_3$  content in the investigated samples, of 14.5 - 79.9% by weight. Results of experiments are tabulated and represented graphically. It was found that with rising temperature P  $Sb_2S_3$  over the melt increases. Temperature dependence of P  $Sb_2S_3$  in  $\lg P - 1/T$  coordinates is expressed by straight lines having almost the same inclination with melts of different composition. Determination was made of the heat of evaporation of  $Sb_2S_3$  from the fusion, which in the temperature range under study is of 25200 cal/mole. With decrease of  $Sb_2S_3$  content in the melt its P decreases regularly (case of negative deviation from Raoult's law).

Card 1/1

PONOMAREV, V. D.

USSR/Chemical Technology - Chemical Products and Their Application. Electro-chemical Manufacturing. Electrodeposition. Chemical Sources of Electrical Current, I-8

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62213

Author: Ponomarev, V. D., Slutskiy, I. Z.

Institution: None

Title: Thermal and Electric Balance of Aluminum Electrolyzers

Original

Periodical: Izv. AN Kaz. SSR, ser. gorn. dela, stroymaterialov i metallurgii, 1956, No 6, 125-134; Kazakh resumé

Abstract: None

Card 1/1

~~POHOMAREV, I. D.~~ POLYVYANNY Y, I. R.

Kinetics of lead sulfide oxidation by atmospheric oxygen. Izv. AN  
Kazakh. SSR Ser. gor. dela, met., stroi. i stroimat. no. 9:3-34 '56.  
(Lead sulfide) (Oxidation) (MLBA 10:2)

PONOMAREV, V.D.; POLYVYANNY, I.R.

Kinetics of the interaction of lead sulfide and lead sulfate. Izv.  
AN Kazakh.SSR Ser.gor.dela, met.stroi.i stroimat.no.9:35-46 '56.  
(Lead sulfate) (Chemical reaction--Mechanism)

SOV/137-57-6-9621

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 44 (USSR)

AUTHORS: Ponomarev, V.D., Polyvyanny, I.R.

TITLE: An Investigation Into the Kinetics of the Thermal Decomposition of Lead Sulfate (Issledovaniye kinetiki termicheskogo razlozheniya sul'fata svintsa)

PERIODICAL: Izv. AN KazSSR, ser. gorn. dela, metallurgii, str-va i stroy-materialov, 1956, Nr 9, pp 47-52

ABSTRACT:  $\text{PbSO}_4$  pure for analysis, ground and screened through an 0.074 mm screen, is used to study decomposition kinetics. The experiments are run in a tubular electric furnace in a stream of  $\text{N}_2$  (3.5 liter/hr  $\text{N}_2$  flow rate). It is found that the onset of visible decomposition of  $\text{PbSO}_4$  in a stream of  $\text{N}_2$  occurs at  $840^\circ\text{C}$ . The rate of the  $\text{PbSO}_4$  decomposition reaction at  $900-1100^\circ$  increases markedly with time and attains a maximum within the first 3 to 7 min. The applicability of the Kolmogorov-Yerofeyev equations throughout the  $\text{PbSO}_4$  thermal decomposition reaction is demonstrated. It is hypothesized that  $\text{PbSO}_4$  decomposition proceeds stepwise.

G.S.

Card 1/1

PONOMAREV, V.D., doktor tekhnicheskikh nauk.

Ways of developing the aluminum industry in Kazakhstan. Vest.AN  
Kazakh.SSR 12 no.5:3-12 My '56. (MLRA 9:8)  
(Kazakhstan--Aluminum industry)

PONOMAREV, V.D., prof., doktor tekhn.nauk; SAZHIN, V.S., kand.tekhn.nauk.

~~Crystallizing sodium aluminate from aluminate solutions.~~ Sbor.  
nauch.trud. KazGMI no.14:371-385 '56. (MIRA 10:10)  
(Crystallization) (Sodium aluminates)

Distr: 4E4, 4E2c

✓ Conversion of nepheline concentrate into alumina and  
alkalies. V. L. Ponomarev and V. S. Sushin USSR  
108,917, Nov 25, 1967. Nepheline concentrate is auto-  
claved with an alkali and lime at 220° after which the  
aluminate soln. is crystd. The slurry obtained in the  
leaching process and consisting primarily of a silicate and  
alkalies is autoclaved at 180° in a tank of lime to regen-  
erate the alkali. M. H. S.

PONOMAREV, V. D.

PHASE I BOOK EXPLOITATION 1188

Akademiya nauk Kazakhskoy SSR, Alma-Ata

Nauka v Kazakhstane za sorok let sovetsskoy vlasti (Science in Kazakhstan During the Forty Years of the Soviet Regime) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1957. 452 p. 6,000 copies printed.

Editorial Board: Satpayev, K.I. (chairman), Baishev, S.B. (resp. ed.); Bazanova, N.U., Polosukhin, A.P., Pokrovskiy, S.N., Zykov, D.A., Chokin, Sh. Ch., Academicians, Kazakh SSR Academy of Sciences; Ed.: Gorshenin, D.S.; Tech. Ed.: Rorokina, A.P.

PURPOSE: This collection of articles is intended for the general reader.

COVERAGE: This is a collection of twenty articles compiled by 24 authors on various aspects of scientific progress in Soviet Kazakhstan. One third of the articles also deal with the progress made in the main fields of industrial endeavor. The articles on the development of science survey the main contributions made in the respective branches by Kazakh scientists, and enumerate and describe the existing scientific institutes, organizations, and universities. A large number of scientists are mentioned and their fields of interest stated.

Card 1/4

1/2

Science in Kazakhstan During the Forty (Cont.)

1188

There are 10 photographs, 2 maps, 1 table (on the morphogenetic types of Kazakh iron ore deposits), and numerous Soviet references in the text.

TABLE OF CONTENTS:

Satpayev, K.I. The Kazakh Academy of Sciences Commemorating the 40th Anniversary of the October Revolution	5
Borukayev, R.A. Mineral Deposits of Kazakhstan	66
Rusakov, M.P. Kazakhstan - the Largest Primary Material Base for the Ferrous Metal Industry in the Eastern Part of the USSR	96
Akhmedsagin, U.M. Hydrogeological Explorations in Kazakhstan Within the Last Forty Years	132
Popov, A.S. Development of Mining Industries and Mining Engineering in Kazakhstan Under the Soviet Regime	158
Ponomarev, V.D. Development of Metallurgy in Soviet Kazakhstan	172

~~Card 2/4~~

1/2

Ponomarev, V.D.

LEBEDEV, K.B.; PONOMAREV, V.D.

Investigating the process of calcium molybdate precipitation  
from solutions of sodium molybdate. Izv. AN Kazakh. SSR. Ser. gor.  
dela, met., stroi. i stroimat. no. 1:12-22 '57. (MLRA 10:5)  
(Molbdenum)  
(Sodium molybdates)

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**CIA-RDP86-00513R001342120010-7**

**APPROVED FOR RELEASE: 06/15/2000**

**CIA-RDP86-00513R001342120010-7"**

PONOMAREV, V.D.; NI, L.P.; LEBEDEV, K.B.; SOLENKO, T.V.

Influence of sulfide ions on the speed of dissociation of aluminate  
solutions. Izv.AN Kazakh.SSR.Ser.gor.dela, met., stroi.i stroimat.  
no.1:34-40 '57. (MLRA 10:5)  
(Sulfides) (Aluminates) (Dissociation)

PONOMAREV, V. D.

NI, L.P.; PONOMAREV, V.D.

Stability of aluminate solutions in presence of sodium aluminosilicates  
in solid phase. Izv. AN Kazakh SSR. Ser. gor. dela, met., stroi. i stroimat.  
no. 1:41-47 '57. (MLRA 10:5)

(Sodium aluminosilicate)  
(Aluminates)

PONOMAREV, V.D.; RUBAN, N.N.

Carbonation of sulfide and aluminate solutions. Izv. AN Kazakh SSR.  
Ser. gor. dela, met., stroi. i stroimat. no. 1:48-56 '57.  
(MLRA 10:5)  
(Sulfides) (Aluminates) (Carbon dioxide)

PONOMAREV, V.D.; STOLYAROVA, Ye.I.; KOZ'MIN, Yu.A.; FAVORSKAYA, L.V.;  
SHALAVINA, Ye.L.

Alkali method of treating lead refinery flue dusts. Izv.AN Kazakh.  
SSR.Ser.gor.dela met., stroi. i stroimat. no.4:1-17 '57. (MIRA 11:4)  
(Flueash) (leaching)

PNOMAREV, V.D.

136-4-5/23

AUTHOR: Surnikov, A.P. and Ponomarev, V.D.

TITLE: Hydrolytic precipitation of copper in the process of leaching roasted zinc concentrates. (Gidroliticheskoe Osazhdenie medi v protsesse vyshchelachivaniya obozhzhennykh tsinkovykh)

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals) 1957, No.4, pp. 21 - 28 (U.S.S.R.)

ABSTRACT: The aim of the work described was the study of hydrolytic precipitation of copper in the neutral leaching of roasted concentrate and the determination of conditions enabling this process to be used for removing copper from solutions. The laboratory investigations were carried out with chemically pure and commercial materials, the experimental results being checked on a larger scale. Experiments were carried out in a beaker with a mechanical stirrer whose rate of revolution was controlled by an autotransformer, temperature being maintained constant within  $\pm 1^{\circ}\text{C}$ . The precipitants tested included sodium hydroxide, calcium carbonate, calcium hydroxide, lime and zinc oxide, but only the last and ash was used in the main series of experiments. Results presented graphically include: copper concentration in solution against time for theoretical and for 100% excess zinc oxide consumption; percent precipitation of copper against

Card 1/3

Hydrolytic precipitation of copper in the process of leaching  
roasted zinc concentrates. (Cont.) 136-4-5/23

temperature, against quantity of zinc oxide, size of zinc  
oxide and ash particles, stirrer rate of rotation,  $\frac{[Fe^{2+}]}{[Cu^{2+}]}$ ,  
zinc concentration in the solution; in some of the graphs pH  
values are included in the ordinate figures. Besides tabulation  
of the material shown graphically the table is presented showing  
the dependence of the pH of a solution of zinc sulphate on  
copper concentration.

It was concluded that the hydrolytic precipitation of copper  
consists of two main stages: hydrolysis (very rapid) and pre-  
cipitation of copper (slow). The rate of the second stage is  
limited by the rate of neutralisation of the hydrolytic acid  
liberated during the first stage, and under unfavourable condi-  
tions the pH of the liquid becomes a function of copper con-  
centration in the solution, as observed in full scale install-  
ations. Under favourable conditions (excess of neutralising  
substance having a high reactivity and good contact with the  
solution) the precipitation of the copper proceeds at an appre-  
ciable rate, and the final concentration of copper in the  
solution is determined by the maximal pH value produced by  
the precipitant in the given liquid. In the process as a whole  
the rate controlling process is the neutralisation. Zinc ions

Card 2/3

Hydrolytic precipitation of copper in the process of leaching roasted zinc concentrates. (Cont.) 136-4-5/23

slow down the precipitation of copper while strong bases accelerate it. Zinc ash was found to give a sufficiently rapid rate of precipitation for removing copper from works solutions, the greatest rate being achieved using ash less than 0.15 mm in size. When bivalent copper and iron ions are present together the precipitation of each is accelerated, and copper precipitation is also accelerated by raising the temperature and intensifying stirring. With a threefold excess of ash and a temperature of 70 °C copper can be precipitated to a residual concentration of 0.2 - 0.3 g/litre in 30 min. For treating zinc concentrates with a high copper content a single-stage periodic scheme with leaching is recommended. There are 7 references, 5 of which are Slavic. There are 11 figures and 4 tables.

Card 3/3

AVAILABLE:

137-58-6-11513

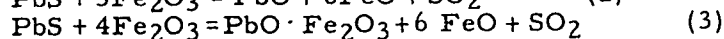
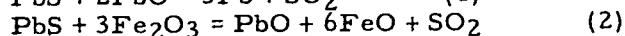
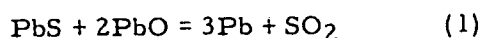
Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 37 (USSR)

AUTHORS: Polyvyanny, I.R., Ponomarev, V.D.

TITLE: The Kinetics of the Interaction of Lead Sulfide and Oxides  
(Kinetika vzaimodeystviya sul'fida svintsa s okislami)

PERIODICAL: Izv. AN KazSSR. Ser. gorn. dela, metallurgii, str-va i str.y-materialov, 1957, Nr 4 (15), pp 97-108

ABSTRACT: An experimental study is made of the kinetics of the following reactions:



in the 700-1050°C temperature interval. It is found that the reaction of PbS with Pb and Fe oxides falls into the category of autocatalytic processes. Reaction (3) appears to be a summation of two prior successive reactions:  $\text{PbO} + \text{Fe}_2\text{O}_3 = \text{PbO} \cdot \text{Fe}_2\text{O}_3$  and of reaction (2). In sintering and bedded oxidizing roasting, the oxidation of galena is supported not by the oxygen of the atmosphere, but also by the oxygen of the solid components of G.F.

Card 1/1 the mix. 1. Lead sulfides--Chemical reactions 2. Oxides--Chemical reactions

SOV/137-58-9-18736

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 84 (USSR)

AUTHORS: Ponomarev, V.D., Yermakova, B.A.

TITLE: Leaching Alumina From Alunite Ore by Sodium Sulfide Solutions (Vyshchelachivaniye glinozema iz alunitovoy rudy rastvorami sernistogo natriya)

PERIODICAL: Izv. AN KazSSR. Ser. gorn. dela, metallurgii, str-va i stroymaterialov, 1957, Nr 5 (16), pp 69-79

ABSTRACT: In leaching alunite solutions with  $\text{Na}_2\text{S}$ , the extraction of  $\text{Al}_2\text{O}_3$  in solution rises with the strength of the  $\text{Na}_2\text{S}$  solution. The optimum conditions for the leaching process are the following: 400 g  $\text{Na}_2\text{S}$ /liter; sulfide factor 4.5; process time 1 hr; temperature  $100^\circ\text{C}$ ; grinding to 140 mesh. Under these conditions, 90% of the  $\text{Al}_2\text{O}_3$  is extracted in the solution, and its concentration therein is 110 g/liter. The major impurities in alunite rock (Fe and Si) do not go into solution.

G.S.

1. Pres--Processing 2. Aluminum oxide--Separation

Card 1/1

PONOMAREV, V.D.

136-12-10/18

AUTHOR: Ponomarev, V.D., Professor, and Sazhin, V.S., Candidate  
of Technical Sciences.

TITLE: Hydrochemical Alkali Method for Treating Nepheline Rocks  
(Gidrokhimicheskiy shchelochnoy sposob pererabotki  
nefelinovykh porod)

PERIODICAL: **Tsvetnyye** Metally, 1957, No.12, pp. 45-51 (USSR)

ABSTRACT: Pointing out that the Soviet Union possesses practically unlimited resources of nepheline rocks, the authors divide the methods proposed for their treatment into six groups. The main interest of research workers, however, has centred on the method of sintering with lime, as introduced by I.L. Talmud at the **Volkhov Aluminum Plant (Volkhovskiy alyuminiyevyy zavod)**. The authors have shown that under the right conditions, nephelines can be decomposed by alkali solutions, without preliminary sintering, to give alumina in solution. Work at the Ac.Sc. of the Kazakh SSR and the Kazakh Mining and Metallurgical Institute (Kazakhskiy gorno-metallurgicheskiy institut) has shown the wide scope of this method. The authors give a schematic outline of the method (Fig.1) which consists essentially of the following: After treatment of the nepheline concentrate or rock with lime and alkali in an autoclave, the residue is freed from aluminate and then returned to the autoclave with water. The second

Card1/2

136-12-10/18

## Hydrochemical Alkali Method for Treating Nepheline Rocks

residue can be used for cement manufacture. The aluminate solution is evaporated and  $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2.5\text{H}_2\text{O}$  crystallises out, the alkali mother liquor being available for leaching. The sodium aluminate is dissolved in water, aluminium hydroxide being removed and calcined to alumina. The authors go on to consider in detail the individual stages of the process, which is still under development. Advantages claimed include 90-92 and 85-90% recoveries of alumina and alkalis, respectively, with the alkali in the more valuable caustic form; a lime consumption half the normal, and the possibility of treating unconcentrated ores. The present disadvantages are the use of a large excess of alkali; a high steam consumption; the need to burn all the limestone. There are 2 figures and 9 references, 8 Russian and 1 English.

AVAILABLE: Library of Congress

Card 2/2

PONOMAREV, V. D.

PONOMAREV, V.D., doktor tekhn. nauk.

More on the energy condition governing the adhesion of mineral  
particles to the air bubble. Vest. AN Kazakh. SSR 13 no.7:88-92  
Jl '57. (MIRA 10:9)

(Flotation)

PONOMAREV, V. D.

36)	NAME I BOOK EXTRACTS	507/2154
	Handbook book 508. Vorkhovo-Silivskiy filial	
	by Yuryevy Legalskaya Vorkhovo-Silivskiy, tom. 2 (Light metal resources of Eastern Siberia, Vol. 2) Moscow, 1958, 568 p. (Soviet: 1741 Trade, 770.33) 1,400 copies printed.	
	Material Book: S.S. Alabazov, To. P. Ponomarev, V.D. Ponomarev, A.P. 11, Doctor of Geological and Mineral Sciences, and To. I. Ponomarev (Mong. M.) (Candidate of Geological Sciences) M. of Publishing House: V.I. Gilevskiy Tom. M.: 1958.	
	Abstract: This issue of the Eastern Siberian Branch Transactions is of interest to geologists, geographers, and mining geologists, mineralogists, and metallurgists in the light metal industries.	
	CONTENTS: This collection of articles is a compilation of the reports presented at the third scientific conference on "The Creation of a Light Metal Industry in Eastern Siberia based on local ores" organized by the Laboratory of Metallurgy of the Eastern Siberian Branch of the AN SSSR in October, 1956. It sets for the purpose of promoting coordination between the activities of the power generation companies and the fast developing light metal industry of Eastern Siberia. The reports indicate that large aluminum and titanium extraction schemes are being constructed in the Transbaikalian, Irkutsk and Khuznetsovskiy basins. These areas provide the cheapest sources of local and foreign electricity. The third article of the light metal industry in Eastern Siberia, aluminum ores, bauxite reserves, bauxite, magnesium ores, etc.	
	Abstracts accompany each article.	
	Abstracts, S.I. Description of Bauxite Deposits by Biryukov Orlan 178	
	Ponomarev, A.V. Technological Processing Plans for Titanium Bauxite Ores 185	
	NAME III. BAKHTIN AND SERIK VITZIKOV	
	Ponomarev, To. P. New data on the Bauxite Deposits 205	
	Abstracts, P.V. Bauxite in the Distribution of Bauxite Ores at the Bauxite Deposits 207	
	Ponomarev, To. I., A.S. Biryukov, and A.P. Biryukov. Combined Treatment of High Iron Content Siliceous Bauxite by Starting a Two-Component Charge in the Presence of a Reducing Agent 208	
	Ponomarev, V.A., and L.P. M. Bulyaevskiy (Sov.) Method of Processing Bauxite into Aluminum Oxide 209	
	Abstract, L.P. and A.I. Yevseyev. Combined Treatment of Aluminum Oxide Iron Ores and High Iron Content Bauxite 217	
	Abstract, V.A. and To. I. Ponomarev. Study of the Reducibility of Bauxite Ore Components of the Technological Deposits 242	
	Ponomarev, I.E. The Problem of Extracting Aluminum Oxide from the High Silica-Content Aluminum Ore of Eastern Siberia 253	
	NAME IV. BAKHTIN AND SERIK VITZIKOV	
	Ponomarev, E.M. Development Deposits of Bauxite and Talc 255	
	Abstract, To. P. and To. I. Ponomarev. Electrolytic Method of Extracting Bauxite from the Deposits of the Olenegorsk Deposits 275	
	Ponomarev, I.E. Aluminum-Oxide Method of Obtaining Calcium from the Laboratories of the Bauxite Deposits 285	
	Abstracts: Laboratory of Olenegorsk	
	Send 7/7	

~~PONOMAREV, H.D.,~~ NI, L.P.

Efficiency of leaching alumina from bauxites by means of caustic  
sulfide solutions. Izv. AN Kaz.SSR. Ser.met.obog. i ognep. no.1:  
14-21 '58. (MIRA 12:7)

(Leaching)

(Bauxite)

PONOMAREV, V.D.; TARASKIN, D.A.

Simultaneous processes of leaching and settling zinc concentrate.

Izv. AN Kaz.SSR. Ser.met.obog. i ognep. no.1:27-35 '58.

(MIRA 12:7)

(Zinc--Electrometallurgy)

(Hydrometallurgy)

PONOMAREV, V.D.; SAZHIN, V.S.

Leaching alumina from nephelines using alkaline solutions in the presence of lime. Izv. vys. ucheb. zav.; tsvet. met. no.2:93-100 '58. (MIRA 11:8)

1. Kazakhskiy gornometallurgicheskiy institut.  
(Alumina) (Nephelines) (Leaching)

SOV/149-58-6-9/19

**AUTHORS:** Ponomarev, V.D., Kolomitskiy, F.M. and Putilin, Yu.M.  
**TITLE:** Some Physical and Chemical Properties of Potassium Fluotitanate (Nekotoryye fiziko-khimicheskiye svoystva ftortitanata kaliya)  
**PERIODICAL:** Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 6, pp 78 - 83 (USSR)

**ABSTRACT:** Since titanium can be obtained by an electrolytic process in which fused mixtures of sodium chloride and potassium fluotitanate are used as electrolytes, the properties of  $K_2TiF_6$  and their variation with temperature are of both theoretical and practical interest. High-purity material, containing less than 0.001% Fe, Au, Mn, Be and Zr, less than 0.0001% Al and traces of Co was used in the investigation described in the present article. The results of the thermal analysis, reproduced in Figure 1, showing the heating (1 - direct, 1<sup>1</sup> - inverse rate) and cooling (2 - direct, 2<sup>1</sup> - inverse rate) curves, indicated that the melting point of  $K_2TiF_6$  is  $820 \pm 5^\circ C$  and that this compound has four allotropic modifications,

Card1/6

SOV/149-58-6-9/19

## . Some Physical and Chemical Properties of Potassium Fluotitanate

the corresponding transformation temperatures being 375-385, 610-620 and 640-685 °C. The observed thermal effects could not be attributed to the effect of volatilisation, dissociation, oxidation or reduction of  $K_2TiF_6$  since they occurred at approx. the same temperatures and with the same intensity in both fresh samples and in material that had been previously fused and solidified. Concurrently with the thermal analysis, the volatility of  $K_2TiF_6$  at various temperatures was measured and it was found that even when this compound, fused in an open crucible, was maintained at 900 °C for 1 hour, the losses by volatilisation did not exceed 0.07%. The results of the density,  $d$ , measurements are given in Table 1, where  $d$  (in  $g/cm^3$ ) is shown in the last column and the corresponding temperature in the first column. From these data an equation for the temperature dependence of  $d$  of fused  $K_2TiF_6$  was derived:

Card2/6

SOV/149-58-6-9/19

Some Physical and Chemical Properties of Potassium Fluotitanate

$$d_t = d_{870} - 0.00055(t_c - t_{870}) =$$

$$= 2.057 - 0.00055(t_c - 870)$$

where  $d_t$  is the density of  $K_2TiF_6$  at temperature  $t_c$ .  
 The variation of electrical conductivity of  $K_2TiF_6$  with temperature is shown in Table 2 (first column - temperature °C, last column - conductivity  $\Omega^{-1}cm^{-1}$ ). The conductivity increased from 2.079 at 920 °C to 2.403  $\Omega^{-1}cm^{-1}$  at 1060 °C. In the next series of experiments, the chemical and thermal stabilities of  $K_2TiF_6$  were studied. After a drying treatment consisting of 2 hours in a desiccator at 110 °C followed by 4 hours' annealing at 450 °C, 25 g samples of the experimental material were placed in platinum crucibles and maintained for 1, 2, 6 hours at 600, 800 and 900 °C. After the treatment the specimens were either quenched or cooled slowly in a desiccator and were then subjected to

Card3/6

SOV/149-58-6-9/19

## Some Physical and Chemical Properties of Potassium Fluotitanate

chemical, crystallographic and X-ray analysis. It was found that the chemical composition of the investigated substance did not change even after 6 hours at 900 °C. However, the optical properties of the  $K_2TiF_6$  crystals were affected by the thermal treatment. Thus, the untreated material consisted of homogeneous, plate-like crystals. After 4 hours at 450 °C, needle-like crystals appeared which were characterised by a higher refractive index and a higher degree of birefringence than the original crystals. After 1 hour at 600 °C followed by slow cooling in a desiccator, the original crystals decomposed yielding two substances: one birefringent with a high refractive index, the other almost isotropic and characterised by a very low refractive index. Material slowly cooled from 900 °C constituted a homogeneous, microcrystalline mass, but in the same material held at 900 °C for 6 hours and quenched, three phases were observed: a) the matrix constituting 70-80% of the total, almost opaque, white under oblique illumination, with the refractive index equal to 1.437; b) a transparent phase, reflecting no

Card4/6

SOV/149-58-6-9/19

Some Physical and Chemical Properties of Potassium Fluotitanate

white light under oblique illumination, isotropic under crossed nicols, with the refractive index of 1.457; c) a product of decomposition of phase a) characterised by the same refractive index, but anisotropic with  $d_n = 0.012$ . At the same time, the results of X-ray

measurements showed that the crystal structure of  $K_2TiF_6$  did not change even after prolonged heating at high temperature, traces only of KF and Pt having been detected in samples held for 6 hours at 900 °C. Examination of samples heated in oxygen and in pure argon disproved the existence of potassium oxyfluoride  $K_2TiOF_4$  stable at temperatures below 500 °C postulated by Ginsberg and Holder (Ref 7) and no evidence was found that at higher temperatures the oxidising reaction proceeds still further ending in the formation of  $TiO_2$  and KF. The absence of any significant quantities of  $TiO_2$  in samples of  $K_2TiF_6$  which had been remelted in air several times and held at

Card5/6 900 °C for 6 hours was proved by solubility tests:

SOV/149-58-6-9/19

Some Physical and Chemical Properties of Potassium Fluotitanate

0.5 g. of such material dissolved completely in 250 c.c.  $H_2O$  at 48-50°C. while a specially prepared, fused and solidified mixture of 90% KF and 10%  $TiO_2$  did not dissolve in boiling water even at the salt/water ratio equal to 1:1000. There are 1 figure, 2 tables and 8 references, 5 of which are Soviet, 1 German and 2 English.

**ASSOCIATION:** Kazakhskiy gornometallurgicheskiy institut.  
Kafedra metallurgii legkikh i redkikh metallov  
(Kazakh Institute of Mining and Metallurgy. Chair of Metallurgy of Light and Rare Metals)

**SUBMITTED:** June 3, 1958

Card 6/6

PONOMAREV, V. D.; NI, L.P.

Using the sulfide-caustic method for processing bauxites in the  
production of alumina. Trudy Vost.-Sib. fil. AN SSSR no.13:232-236  
'58. (MIRA 12:12)

1. Institut metallurgii i obogashcheniya AN Kazakhskoy SSR.  
(Alumina) (Bauxite)